



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,254	12/12/2003	Kun-soo Kim	1793.1005	8678

21171 7590 10/30/2007
STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

NGUYEN, LINH THI

ART UNIT	PAPER NUMBER
----------	--------------

2627

MAIL DATE	DELIVERY MODE
-----------	---------------

10/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/733,254

Applicant(s)

KIM ET AL.

Examiner

Linh T. Nguyen

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2007.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 8, 11-13, 15 and 17-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 11-13, 15, 17-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-3, 8, 13, 15, and 18-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1, 18 and 22, discloses "first and second collimating lenses.... a relay lens disposed on at least one of an optical path between first light module and the first collimating lens," does not described in the specification that the embodiments are useable together.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 3, 8, 13, 15, and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al in view of Ichimura et al (US Publication number 20050163033).

In regards to claims 1, 18 and 22, Kim et al discloses a compatible optical pickup apparatus and method comprising: a first light module (Fig. 1, element 10) to records information on and reproduces information from a first optical recording medium having a first format (Column 3, lines 33-35) radiates a first beam having a first wavelength (Fig. 1, solid lines), and receives the first beam reflected from the first optical recording medium to detect an information signal and an error signal (Fig. 1, element 12); a second light module (Fig. 1, element 20) to records information on and reproduces information from a second optical recording medium having a second format different from the first format (Column 3, lines 33-35), radiates a second beam (Fig. 1, dash lines) having a second wavelength different from the first wavelength, and receives the second beam reflected from the second optical recording medium to detect an information signal and an error signal (Fig. 1, element 22); a beam splitter (Fig. 1, element 30) disposed along paths of the first and second beams and which changes the paths of the first and second light beams (Fig. 1); an objective lens (Fig. 1, element 60) which condenses the first and second light beams to form a light spot on the first and second optical recording media (Fig. 1, CD and DVD), respectively; and a monitoring photodetector (Fig. 1, element 40) disposed along a third light path, which receives the portions of the first and second light beams from the beam splitter so as to monitor powers of the first and second light modules (Fig. 1), wherein the beam splitter is a cubic beam splitter which transmits most of the first beam emitted from the first light module so that most of the first beam proceeds to the objective lens, and reflects most of the second beam emitted format he second light module so that most of the second

beam proceeds to the objective lens (column 3, lines 58-66). However, Kim does not disclose an optical pickup apparatus comprising first and second collimating lenses which are respectively disposed on an optical path between the first light module and the beam splitter and an optical path between the second light module and the beam splitter; a relay lens disposed on at least one of an optical path between the first light module and the first collimating lens and an optical path between the second light module and the second collimating lens and which changes a divergent angle of incident light and outputs light with a divergent angle.

In the same field of endeavor, Ichimura et al discloses an optical pickup apparatus comprising first and second collimating lenses which are respectively disposed on an optical path between the first light module and the beam splitter and an optical path between the second light module and the beam splitter (Fig. 14, elements 17 and 21); relay lens (Fig. 14, element 26) disposed between collimated lens (Fig. 14, elements 25, 21, 16) and a light source (since element 27 is photodetector to detect error signals, which is disposed in the light source of Kim et al, therefore, the placement of the relay lens is obvious in order to converge/diverge the light into a specific spot) and changes the divergent angle (Fig. 14). At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the pickup apparatus of Kim to include collimator lens and relay lens as suggested by Ichimura et al. The motivation would have been to correct the spot light to the disk and the photodetector.

In regards to claim 2, Kim et al discloses the compatible optical pickup apparatus of claim 1, wherein the first light module (Fig. 1, element 10) comprises: a first light source which emits the first beam (Fig. 1 solid lines); a first photodetector which receives the first beam reflected from the first optical recording medium (Fig. 1, element 12) to detect an information signal and an error signal; and a first hologram element (Fig. 1, element 13a) which transmits the first beam so that the first beam proceeds to the beam splitter, and diffracts the reflected first beam so that the diffracted light proceeds to the first photodetector (Column 3, lines 48-53).

In regards to claim 3, Kim et al discloses the compatible optical pickup apparatus of claim 1, wherein the second light module (Fig. 1, element 20) comprises: a second light source which emits the first beam (Fig. 1 dash lines); a second photodetector which receives the second beam reflected from the second optical recording medium (Fig. 1, element 22) to detect an information signal and an error signal; and a first hologram element (Fig. 1, element 23a) which transmits the first beam so that the first beam proceeds to the beam splitter, and diffracts the reflected first beam so that the diffracted light proceeds to the first photodetector (Column 3, lines 48-53).

In regards to claims 13 and 21, Kim et al discloses the compatible optical pickup apparatus of claim 1, wherein optical output of the first and second light modules is controlled by a controller based on the received portions of the first and second beams

Art Unit: 2627

(Column 4, lines 3-7).

In regards to claim 19, Kim et al discloses the optical pickup of claim 18, wherein the first and second optical recording media use different formats (Column 3, lines 33-35).

In regards to claim 20, Kim et al discloses the optical pickup of claim 18, wherein the monitoring photodetector opposes the beam splitter (Fig. 1).

In regards to claim 8, Kim does not but Ichimura et al discloses, wherein a cross-sectional area of the light transmitted by the beam splitter is adjustable by varying a distance between the first and second light modules and the first and second collimating lenses, respectively (Fig. 14). The motivation is the same as claim 7 above.

In regards to claim 15, Kim et al does not but Ichimura et al discloses a half-wavelength plate (Fig. 14, element 18) disposed on one of an optical path between the first light module (Fig. 14, element 16) and the beam splitter (Fig. 14, element 20) and an optical path between the second light module and the beam splitter (Fig. 14, element 22) and which delays a phase of incident light to change the polarization of the incident light (It is obvious that the function of a half wavelength change the polarization of the light). The motivation for doing so would have been to align with the incident light beam.

5. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al in view of Noguchi et al (US Patent Number 5309423).

In regards to claim 11, Kim discloses everything that is claimed in claim 1. However, Kim does not disclose the compatible optical pickup apparatus, further comprising a second mirror disposed on an optical path between the beam splitter and the objective lens which and reflects the first and second beams emitted from the first and second light modules so that the paths of the first and second beams are changed and phases of the first and second beams are shifted.

In the same field of endeavor, Noguchi et al discloses the compatible optical pickup apparatus, further comprising a second mirror disposed on an optical path between the beam splitter and the objective lens which and reflects the first and second beams emitted from the first and second light modules so that the paths of the first and second beams are changed and phases of the first and second beams are shifted (Fig. 3, the mirror 31 is between the prism 52 and the objective lens 32). At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the Kim et al first mirror to be coated for a phase shift of the beam as taught by Noguchi et al. The motivation for doing so would have been to maintain the correct beam polarization for a correct reading.

In regards to claim 12, Kim et al does not but Noguchi et al discloses the second

Art Unit: 2627

mirror is coated with a coating which shifts the phase of the first beam so as to invert a polarization of the first beam (Column 1, lines 20-25). The motivation is the same as claim 11 above.

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al in view of Ichimura et al as applied to claim 14 above, and further in view of Arai et al (US Patent number 6870805).

In regards to claim 17, Kim et al and Ichimura et al does not but Arai et al discloses a collimating lens (Fig. 67, element 2) disposed on an optical path between the beam splitter (Fig. 67, element 6) and the objective lens (Fig. 67, element 1) which condenses divergent light incident from the first and second light modules to convert the divergent light into parallel light (Fig. 67). At the time of the invention it would have been obvious to person of ordinary skill in the art to modify Kim et al and Ichimura et al optical pickup to have a collimating lens between the objective lens and beam splitter as taught by Arai et al. The motivation for doing so would have been to create a parallel lights passing through the objective lens.

Response to Arguments

7. Applicant's arguments filed 08/15/07 have been fully considered but they are not persuasive. Applicant argues that the motivation was improper on claim 7. However, the motivation further includes a relay lens, therefore, new motivation is provided above.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh T. Nguyen whose telephone number is 571-272-5513. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LN
October 24, 2007


WAYNE YOUNG
SUPERVISORY PATENT EXAMINER